

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-193-4  
Relating to Exemptions Under Section 27156  
of the Vehicle Code

CAR SOUND EXHAUST SYSTEM, INC.  
"SERIES 900 HD NEW AFTERMARKET THREE-WAY PLUS OXIDATION  
CATALYTIC CONVERTER"

WHEREAS, Vehicle Code Section 27156 and Title 13 California Code of Regulations (hereafter "CCR") Section 2222(h), authorize the California Air Resources Board (ARB) and its Executive Officer to exempt new aftermarket catalytic converters from the prohibitions of Vehicle Code Section 27156.

WHEREAS, Car Sound Exhaust System, Inc. of 22961 Arroyo Vista, Rancho Santa Margarita, California 92688, has applied to the ARB for exemption from the prohibitions of Vehicle Code Section 27156 for their series 900 HD new aftermarket three-way plus oxidation (TWC + OC) catalytic converter for the following application:

<u>Converter Type</u>	<u>Max. Engine Size</u>	<u>Max. Veh. Weight</u>
TWC + OC	5.8L (351 CID)	5,500 lbs.

WHEREAS, pursuant to the authority vested in the Executive Officer by Health and Safety Code Section 39515 and in the Chief, Mobile Source Division by Health and Safety Code Section 39516 and Executive Order G-45-5, the Air Resources Board finds that the above aftermarket catalytic converter system complies with the California Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h).

IT IS HEREBY RESOLVED that the above catalytic converter system is exempt from the prohibitions of Vehicle Code Section 27156 for installation on the approved application vehicles subject to the following conditions:

1. No changes are permitted to the converter system as described in the application for exemption. Any changes to the converter system or any of its components, applicable model year, or other factors addressed in this order must be evaluated and approved by the Air Resources Board prior to marketing in California.
2. Marketing of the converter system using identifications other than those shown in the exemption application or marketing of the converter system for applications other than those listed in the application catalog shall be prohibited unless prior approval is obtained from the Air Resources Board. Exemption of this product shall not be construed as an exemption to sell, offer for sale, or advertise any components of the converter as individual devices.

CAR SOUND EXHAUST SYSTEM, INC.  
"SERIES 900 HD NEW AFTERMARKET  
THREE-WAY PLUS OXIDATION CATALYTIC  
CONVERTER"

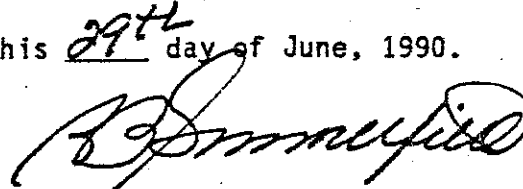
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3. Any oral or written references to this Executive Order or its content by Car Sound Exhaust System, Inc., its principals, agents, employees, distributors, dealers, or other representatives must include the disclaimer that the Executive Order or the exemption it provides is not an endorsement or approval of any emissions reduction claims for the catalytic converter and is only a finding that the converter system is exempt from the prohibitions of Vehicle Code Section 27156.

Violation of any of the above conditions shall be grounds for revocation of this order. The order may be revoked only after ten day written notice of intention to revoke it, during which period the holder of the order may request in writing a hearing to contest the proposed revocation. If a hearing is requested, it shall be held within ten days of receipt of the request, and the order may not be revoked until a determination is made, after the hearing, that grounds for revocation exist.

Executed at El Monte, California, this 29<sup>th</sup> day of June, 1990.



R.B. Summerfield  
Assistant Division Chief  
Mobile Source Division

State of California  
AIR RESOURCES BOARD

EVALUATION OF CAR SOUND EXHAUST SYSTEM, INC. NEW AFTERMARKET 900 HD  
SERIES 3-WAY PLUS OXIDATION CATALYTIC CONVERTER FOR EXEMPTION  
FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 AND  
TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

June, 1990

EVALUATION OF CAR SOUND EXHAUST SYSTEM, INC. NEW AFTERMARKET 900 HD  
SERIES 3-WAY PLUS OXIDATION CATALYTIC CONVERTER FOR EXEMPTION  
FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 AND  
TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

by

Mobile Source Division

State of California  
AIR RESOURCES BOARD  
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(This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.)

### SUMMARY

Car Sound Exhaust System, Inc. (Car Sound) of 22961 Arroyo Vista, Rancho Santa Margarita, California 92688, has applied for an exemption of their new 900 HD series aftermarket three-way plus oxidation (TWC + OC) catalytic converter under the California regulations for new aftermarket catalytic converters. Car Sound plans to use the converter on three-way plus oxidation vehicles up to 5.8 liters and 5500 lbs.

Emissions data submitted show that the catalytic converter meets the requirements of Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h) for the stated application. Based on the above, the staff recommends that the exemption be granted as requested.

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EVALUATION OF CAR SOUND EXHAUST SYSTEM, INC. NEW AFTERMARKET 900 HD  
SERIES 3-WAY PLUS OXIDATION CATALYTIC CONVERTER FOR EXEMPTION  
FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 AND  
TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

I. INTRODUCTION

Car Sound Exhaust System, Inc. (Car Sound) of 22961 Arroyo Vista, Rancho Santa Margarita, California 92688, has applied for an exemption for their new aftermarket 900 HD series three-way plus oxidation (TWC + OC) catalytic converter, in accordance with the California regulations on new aftermarket catalytic converters. The intended converter application is shown below:

<u>Type</u>	<u>Series No.</u>	<u>Engine Size</u>	<u>Max. Veh. Wt.</u>
3-Way + OC	900 HD	5.8L (351 CID)	5500 lbs

II. CONCLUSION

The applicant has submitted all the required information and based on the submitted exhaust emissions test data, the staff concludes that the catalytic converter meets the criteria set forth in Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h) for the stated application.

III. RECOMMENDATION

The staff recommends that the exemption be granted as requested and that Executive Order No. D-193-4 be issued, permitting the advertisement, sale and installation of the new aftermarket catalytic converter.

#### IV. DEVICE DESCRIPTION

The Car Sound three-way plus oxidation substrates are coated with platinum, palladium and rhodium with air injection incorporated between the reducing and oxidizing substrates. Two reducing and one oxidizing substrates are enclosed in an outer shell or container of stainless steel. The converter shell is constructed of stainless steel 409. A heat shield of aluminum is welded to the converter shell to protect the vehicle underbody from heat. The catalytic converter is sold with installation instructions and kits as shown in the application catalog. It is also sold with a warranty for 25,000 miles on the substrates and five years or 50,000 miles on the container or shell.

#### V. DEVICE EVALUATION

Car Sound has submitted the test data on the catalytic converter. The tests were conducted by Automotive Testing and Development Services, Inc. (ATDS), Huntington Beach, California. Two CVS-75 emission tests were conducted on the test vehicle with the converter installed and two CVS-75 tests were conducted with exhaust backpressure simulator. The substrates that were used to build the 900 HD converter were respectively aged on 7.5 and 5.0 liter vehicles with 5500 lbs. weight. Exemption for the 900 HD series converter is limited to vehicles up to 5.8 liters and 5500 lbs. in order to conform to the "worst case" requirement of the California regulations. The test results and conversion efficiencies for the converter are shown below:



Three-way plus oxidation (TWC + OC)

	<u>Simulator</u>	<u>Converter</u>	<u>Conversion Efficiency</u>
HC (g/mi)	5.007	0.643	87.2%
CO (g/mi)	61.092	9.528	84.4%
NOx(g/mi)	1.654	0.816	50.7%

All of the conversion efficiencies meet the requirements of the California regulations. Car Sound did measurements to compare the vehicle exhaust backpressure for the original equipment manufacturer converter and the series 900 HD converter. The result showed no significant change in backpressure due to the installation of the new converter. The staff based the evaluation of the new aftermarket catalytic converter on the information submitted by Car Sound and on test data from Automotive Testing and Development Services, Inc.